

Supplemental Table 1. Individual patient characteristics

Patient No.	Diagnosis	Surgical Procedure	CPB time	DHCA time	Peak SBDP 120	Peak SBDP 150	Preop Brain Imaging	Postop Brain Imaging
1	Cortriatriatum	Cor membrane resection	62	-	4.045	12.242	-	-
2	PA/IVS 36 week GA	MBTS	-	-	2.771	32.343	Cytotoxic injury, temporal and parietal edema	-
3	DORV, MA, hypoplastic LV	PAB	-	-	1.518	12.473	No injury	-
4	DORV, TA, PA, hypoplastic RV	MBTS	-	-	0	7.108	-	-
5	PA/IVS	MBTS	-	-	0	9.57	No injury	-
6	HLHS	Norwood/ Sano	157	46	3.021	10.579	Multiple foci of hemorrhage in right lateral ventricle	-
7	Truncus Arteriosus 32 weeks GA	Repair	101	-	22.729	21.042	No injury (ultrasound)	Parietal parenchymal hematoma with intraventricular and subarachnoid/subdural extension; Ischemic infarction and edema left frontal, temporal, parietal, occipital lobes (CT)

8	DILV, L-TGA, hypoplastic arch, CoA	Norwood/ MBTS	99	41	3.839	20.849	No injury	No injury (ultrasound)
9	Truncus Arteriosus, IAA	Repair	197	53	3.223	18.755	Small hemorrhagic focus in right temporal lobe, small focal infarct in left parietal peri- ventricular deep white matter	Acute infarction of ACA and MCA distributions bilaterally
10	D-TGA	ASO	155	12	3.153	16.52	Small watershed infarct in left posterior parietal white matter	Residual injury
11	HLHS	Norwood/ Sano	125	38	3.579	16.223	No injury	-
12	HLHS	Norwood/ Sano	142	63	4.249	16.329	Small hemorrhage in posterior fossa	Acute infarct of RMCA and watershed territories

13	VSD, CoA 36 week GA	Repair	134	23	4.681	14.694	Multiple small hemorrhagic white matter injuries	-
14	DILV, right AV valve atresia, mild PS, L-TGA	PAB	-	-	0	14.841	No injury	Focal ischemic injury in the left hemisphere

CPB, cardiopulmonary bypass; DHCA, deep hypothermic circulatory arrest; PA, pulmonary atresia; IVS, intact ventricular septum; DORV, double outlet right ventricle; MA, mitral atresia; LV, left ventricle; TA, tricuspid atresia; RV, right ventricle; HLHS, hypoplastic left heart syndrome; DILV, double inlet left ventricle; L-TGA, L-looped transposition of the great arteries; CoA, coarctation of the aorta; IAA, interrupted aortic arch; D-TGA, D-looped transposition of the great arteries; VSD, ventricular septal defect; AV, atrioventricular; PS, pulmonary stenosis; MBTS, modified Blalock-Taussig shunt; PAB, pulmonary artery banding; ASO, arterial switch operation; SBDP, spectrin breakdown product; preop, preoperative; postop, postoperative; CT, computed tomography; GA, gestational age. CPB and DHCA time is in minutes. Peak SBDP120 and 150 values are ng/mL. Brain imaging indicates results from magnetic resonance imaging unless otherwise indicated.